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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,634	10/17/2000	Christian Fraisse	S1022/8429	1622

7590 09/30/2003

James H. Morris
Wolf, Greenfield & Sacks P.C.
Federal Reserve Plaza
600 Atlantic Avenue,
Boston, MA 02210-2211

[REDACTED] EXAMINER

JAMAL, ALEXANDER

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

2643

DATE MAILED: 09/30/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/690,634	FRAISSE ET AL.
	Examiner	Art Unit
	Alexander Jamal	2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 17 October 2000.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-5 and 7 is/are rejected.
- 7) Claim(s) 6 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 17 October 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> .	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Drawings

1. Figures 1-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
2. The drawings are objected to because Fig. 6A should have the term “CK+” labeled on the waveform as per applicant’s specification pg. 7 lines 3-5. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 1** rejected under 35 U.S.C. 103(a) as being unpatentable over White (6008746), and further in view of DePouilly et al. (4242754).
 - a. **Claim 1:** White discloses a method of regenerating a clock signal based upon flip flop 105 (Fig. 5) and two complementary signals, data and clock (or Manchester data transition) signals input at reference 40 in Fig. 5. (Col 3 line 65 to Col 4 line 17) The method comprising:
 - i. Flip-Flop 105 (Fig. 5) is connected in a divide by two configuration.

ii. A combination of shaping signals are generated at transition triggered, one-shot pulse generator 45 (Fig. 5).

However White does not mention using one of the shaping signals to reset the flip-flop 105.

DePouilly teaches that, in a clock recovery system (in a data receiver) utilizing flip-flops, that asynchronism may occur if there is another signal incident with the clock signal (Col 1 lines 54-57), and furthermore, that using the data signal in order to reset the flip-flops will help to eliminate synchronization errors (signal RAZ-, Fig. 1; Col 4 lines 3-20). It would have been obvious to one of ordinary skill in the art at the time of this application to utilize one of the complementary signals (the data portion) to reset the flip-flop in order to help reduce synchronization errors.

5. **Claims 2,3** rejected under 35 U.S.C. 103(a) as being unpatentable over White (6008746) and DePouilly et al. (4242754) as applied to Claim 1, and further in view of Bingel (5655010).

b. **Claim 2:** White and Depouilly disclose a method for a clock recovery system (in a data receiver) as per claim 1, but they do not disclose that the method is applied to regenerating a clock signal downstream of a capacitive isolation barrier.

Bingel teaches that the FCC requires that many data receivers (such as a modem) must be isolated so to not create a path for direct current to ground from the transmission line. He teaches that prior systems have used expensive and bulky transformers to achieve the isolation (Col 1 lines 13-60). He further teaches the use of a physically

smaller isolation barrier in lieu of bulky inductors. It would have been obvious to one of ordinary skill in the art at the time of this application to apply a capacitive isolation barrier to the input of the data receiver which receives the two complementary signals in order to reduce the size/cost of the required components.

c. **Claim 3:** White's method discloses that the output 117 of Flip-Flop 105 (Fig. 5) provides an image of the clock signal used to originally encode the data as the output signal is used to recover the original data (White: Col 11 line 65 to Col 12 line 16). Depouilly's teachings disclose that the other complementary signal (data) is used to reset the divide-by-two flip-flop.

6. **Claim 4,5** rejected under 35 U.S.C. 103(a) as being unpatentable over White (6008746), and further in view of DePouilly et al. (4242754).

a. **Claim 4:** White discloses a clock regenerating circuit based upon D-flip-flop 105 (Fig. 5) and two complementary signals, data and clock (or Manchester data transition) signals input at reference 40 in Fig. 5. (Col 3 line 65 to Col 4 line 17) The circuit comprising:

i. A combination of shaping signals are generated by filtering the rising edges of the complementary signals at transition triggered, one-shot pulse generator 45 (Fig. 5) (Described further in Fig. 7 Col 10 lines 25-58).

However White does not mention using one of the shaping signals to reset the flip-flop 105.

DePouilly teaches that, in a clock recovery system (in a data receiver) utilizing flip-flops, that asynchronism may occur if there is another signal incident with the clock signal (Col 1 lines 54-57), and furthermore, that using the data signal in order to reset the flip-flops will help to eliminate synchronization errors (signal RAZ-, Fig. 1; Col 4 lines 3-20). It would have been obvious to one of ordinary skill in the art at the time of this application to utilize one of the complementary signals (the data portion) to reset the flip-flop in order to help reduce synchronization errors.

b. **Claim 5:** White's one-shot pulse generator 45 (Fig. 5) comprises NAND gates and inverters (Fig 7) to process the complementary signals (Fig. 7 Col 10 lines 25-58).

7. **Claim 7** rejected under 35 U.S.C. 103(a) as being unpatentable over White (6008746) and DePouilly et al. (4242754) as applied to Claim 1, and further in view of Bingel (5655010).

a. **Claim7:** White and Depouilly disclose a data receiver (such as a modem) interface with a clock recovery system as per claim 1, but they do not disclose that the method is applied to regenerating a clock signal downstream of a capacitive isolation barrier.

Bingel teaches that the FCC requires that many data receivers (such as a modem) must be isolated so to not create a path for direct current to ground from the transmission line. He teaches that prior systems have used expensive and bulky transformers to

achieve the isolation (Col 1 lines 13-60). He further teaches the use of a physically smaller isolation barrier in lieu of bulky inductors. It would have been obvious to one of ordinary skill in the art at the time of this application to apply a capacitive isolation barrier to the input of the data receiver which receives the two complementary signals in order to reduce the size/cost of the required components.

Allowable Subject Matter

8. **Claim 6** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.



CURTIS A. KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

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